REMARKS/ARGUMENTS

Claims 1-27 have been resubmitted. Claims 1, 5, 6, 14-16, 18, 23 and 24 have been amended. No new claims have been added.

The Examiner has rejected claims 1, 2, 7 and 8 under 35 U.S.C. Section 103(a) as being unpatentable over U.S. Patent Application Serial No. 2002/0165002 to Kolinko in view of European patent application 276,347 to Fulton (EP0276347). The Examiner also rejected claims 3-6 under 35 U.S.C. Section 103(a) as being unpatentable over Kolinko in view of Fulton and further in view of U.S. Patent Application Serial No. 2002/0167449 to Frazita. The Examiner objected to claims 1, 5, 6, 14-16, 18, 23 and 24 because of informalities.

The Examiner allowed claims 9-13. The Applicants thank the Examiner for the allowed claims.

Examiner Interview

Applicants thank the Examiner for the telephone conference with Applicants' representative on June 27, 2005. During the telephone conference, the Examiner and Applicants' representative discussed the rejected claims 1-8 under 35 U.S.C. Section 103(a). Also discussed was the objection to claims 1, 5, 6, 14-16, 18, 23 and 24 because of informalities. No agreement was reached.

Kolinko

The Kolinko reference discloses a transceiver for wireless, millimeter

wave communications links at frequencies in excess of 70 GHz. The transceiver provides a communication link of more than eight miles which operates within the 71 to 76 GHz portion of the millimeter spectrum and provides data transmission rates of 1.25 Gbps with bit error rates of less than 10^{-10}. A first transceiver transmits at a first bandwidth and receives at a second bandwidth both within the above spectral range. A second transceiver transmits at the second bandwidth and receives at the first bandwidth. The transceivers are equipped with antennas providing beam divergence small enough to ensure efficient spatial and directional partitioning of the data channels so that any number of transceivers will be able to simultaneously use the same spectrum. The first and second spectral ranges are 71.8+/-0.63 GHz and 73.8+/-0.63 GHz and the half power beam width is about 0.2 degrees or less.

The Kolinko reference, however, does not disclose a cross polarization interference canceller including an interference detector coupled with a transmit splitter and a receive splitter, wherein the interference detector is configured to correlate a transmit signal with a receive signal to determine an interference with said receive signal due to said transmit signal, as claimed in amended independent claims 1, 16 and 18.

The functions performed by the interference detector are described, among other places, in Applicant's specification on pages 15-16, paragraphs 35-36, reproduced below:

> "[0035] As seen in Figure 3, receive splitter 244 may split receive signal 242 so that receive signal 242 is fed simultaneously to summer 246 and to interference detector 248. Transmit splitter 250 may split transmit signal 240 so that transmit signal 240 is fed simultaneously to interference detector 248 and vector modulator 254 of CPIC 236 and to OMT 214 to be transmitted over forward link 204 from antenna 224.

[0036] Interference detector 248 can correlate transmit signal 240 and receive signal 242 to determine the amplitude and phase of interference with receive signal 242 due to transmit signal 240. The interference amplitude and interference phase of interference with receive signal 242 due to transmit signal 240 is output by interference detector 248 and may be used by vector modulator controller 252 to calculate new vector modulator settings for vector modulator 254. Vector modulator controller 252 can set vector modulator 254 to cancel out interference on receive signal 242 from transmit signal 240. Vector modulator 254 may use transmit signal 240, which is connected directly to vector modulator 254 from transmit splitter 250, and may use new vector modulator settings from vector modulator controller 252 to form an interference cancellation vector that, when added to receive signal 242, cancels interference with receive signal 242 due to transmit signal 240. Such interference with receive signal 242 due to transmit signal 240 may be caused, for example, by the reflection problem described above. Summer 246 can add the interference cancellation vector from vector modulator 254 to receive signal 242 from receive splitter 244 to provide a clean receive signal 256 to receiver 212." (Emphasis added)

Therefore, Kolinko does not anticipate the present invention, either alone or with the other references of record.

Fulton

The Fulton reference discloses a system for selectively converting electromagnetic waves from circular to linear polarization or vice versa. The system comprises a polarization converter including a circular waveguide and a rectangular waveguide for receiving or transmitting a signal. The center line of the rectangular waveguide is at substantially a right angle to the axis of the

circular waveguide. The unit is provided comprising a metal fin and a shorting member positioned in the circular waveguide at the opening of the rectangular waveguide into the circular waveguide. The fin is at a preset distance from the shorting member. The fin is movable with respect to the center line of the rectangular waveguide about the axis of the circular waveguide with the face thereof substantially at right angles to the axis. The fin has a front edge positioned between the rectangular waveguide center line and the wall of the rectangular waveguide farthest from the circular waveguide opening.

The Fulton reference, however, does not disclose a cross polarization interference canceller including an interference detector coupled with a transmit splitter and a receive splitter, wherein the interference detector is configured to correlate a transmit signal with a receive signal to determine an interference with said receive signal due to said transmit signal, as claimed in amended independent claims 1, 16 and 18.

Therefore, Fulton does not anticipate the present invention, either alone or with the other references of record.

Frazita

The Frazita reference discloses an improved phased array antenna having a low profile. The antenna has a polarizer and a rotating phased array. MEMS phase shifters are used for electronically controlling relative phase shift between antenna elements and MEMS switches employed to provide beam steering and polarization switching.

The Frazita reference, however, does not disclose a cross polarization interference canceller including an interference detector coupled with a transmit splitter and a receive splitter, wherein the interference detector is configured to

correlate a transmit signal with a receive signal to determine an interference with said receive signal due to said transmit signal, as claimed in amended independent claims 1, 16 and 18.

Therefore, Frazita does not anticipate the present invention, either alone or with the other references of record.

Objection to Claims

The Examiner objected to claims 1, 5, 6, 14-16, 18, 23 and 24 because of informalities. Claims 1, 5, 6, 14-16, 18, 23 and 24 have been amended to cure the informalities pointed out by the Examiner.

CONCLUSION

Reconsideration and withdrawal of the Office Action with respect to Claims 1-27 are requested. Applicant submits that the submitted claims are now in condition for allowance.

In the event the examiner wishes to discuss any aspect of this response, please contact the attorney at the telephone number identified below.

Respectfully submitted,

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